

Running MOBILE6



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What we will cover



- Getting started
- Running MOBILE6
- Input file basics

The information contained in this presentation is covered in more detail in Chapter 4.0 and the first portions of Chapter 2.0 of the MOBILE6 User Guide.

System Requirements



- IBM-compatible 80386 or better (i.e., Pentium) processor.
- At least 5 megabytes of available RAM memory.
- Math coprocessor chip.
- DOS or Windows operating system.

System Requirements



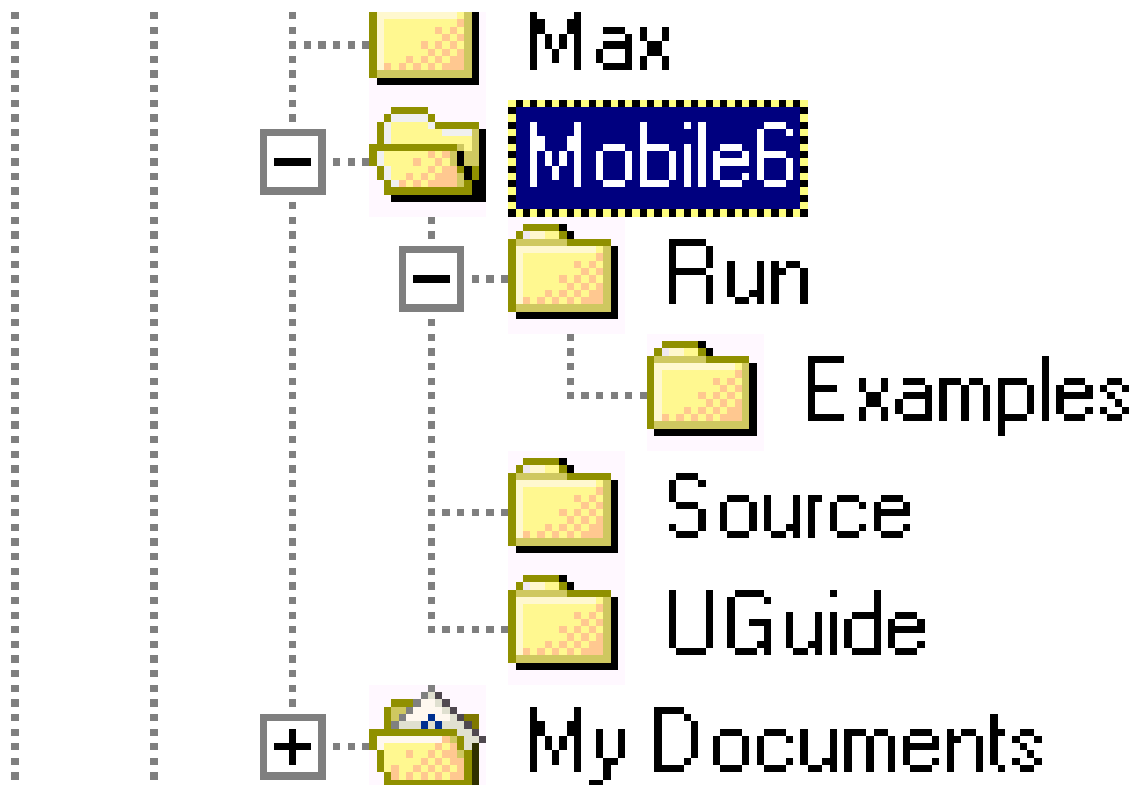
- Faster is better.
- MOBILE6 may not run as compiled on machines with OS/2 operating systems.
- It should be possible to re-compile the MOBILE6 source code for use on other platforms (i.e., Mac, Unix, Linux, etc.).

Basic Installation



- Drag the MOBILE6 folder to the hard drive (no installation application).
- MOBILE6 folder contains a “Readme” text file with brief instructions.
- The MOBILE6 executable application and critical external files are in the RUN sub-folder.

MOBILE6 Folders



RUN Sub-Folder Contents



- MOBILE6 executable application.
- Required I/M external data files.
 - ASMDATA.D for ASM tests.
 - TECH12.D for pre-1981 model year vehicles.
- Example external data files containing default values (*.D and *.DEF).
- Default MOBILE6.IN example.

Other Sub-Folder Contents



- UGUIDE sub-folder contains the User Guide and Frequently Asked Questions documents.
- SOURCE sub-folder is intended to contain the FORTRAN source code (currently empty).

EXAMPLES Sub-Folder



- Sub-folder of the RUN sub-folder.
- Contains additional input file examples.

Running MOBILE6



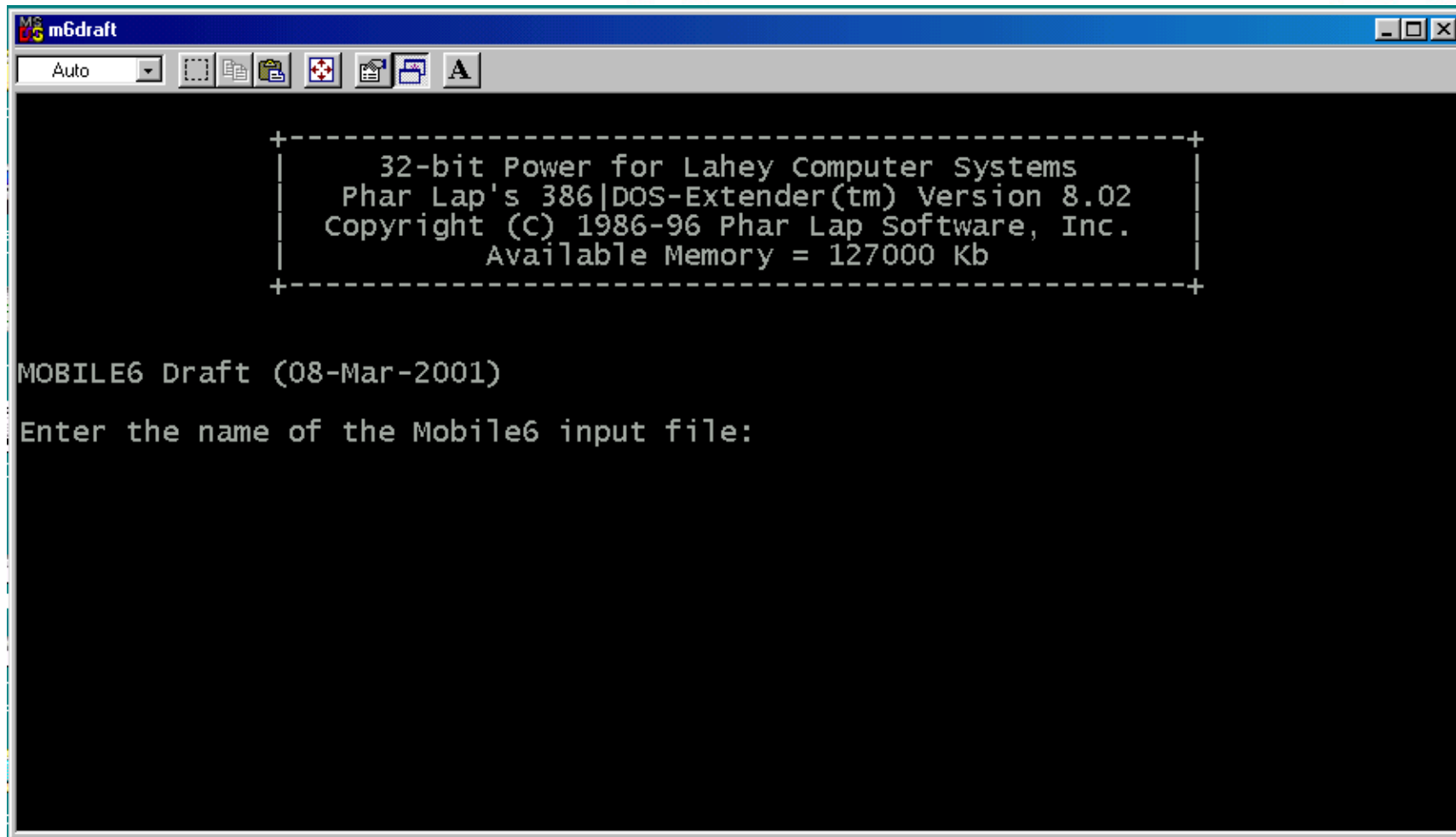
- MOBILE6 is not interactive.
- You must have a prepared input file containing the appropriate commands.
- Input files must be DOS text (ASCII).
- Input files must not contain tab characters.

Running MOBILE6



- Double click on the M6DRAFT.EXE application icon.
- A DOS window will appear.
- Enter an input file name.
- Enter return.

Starting DOS Window

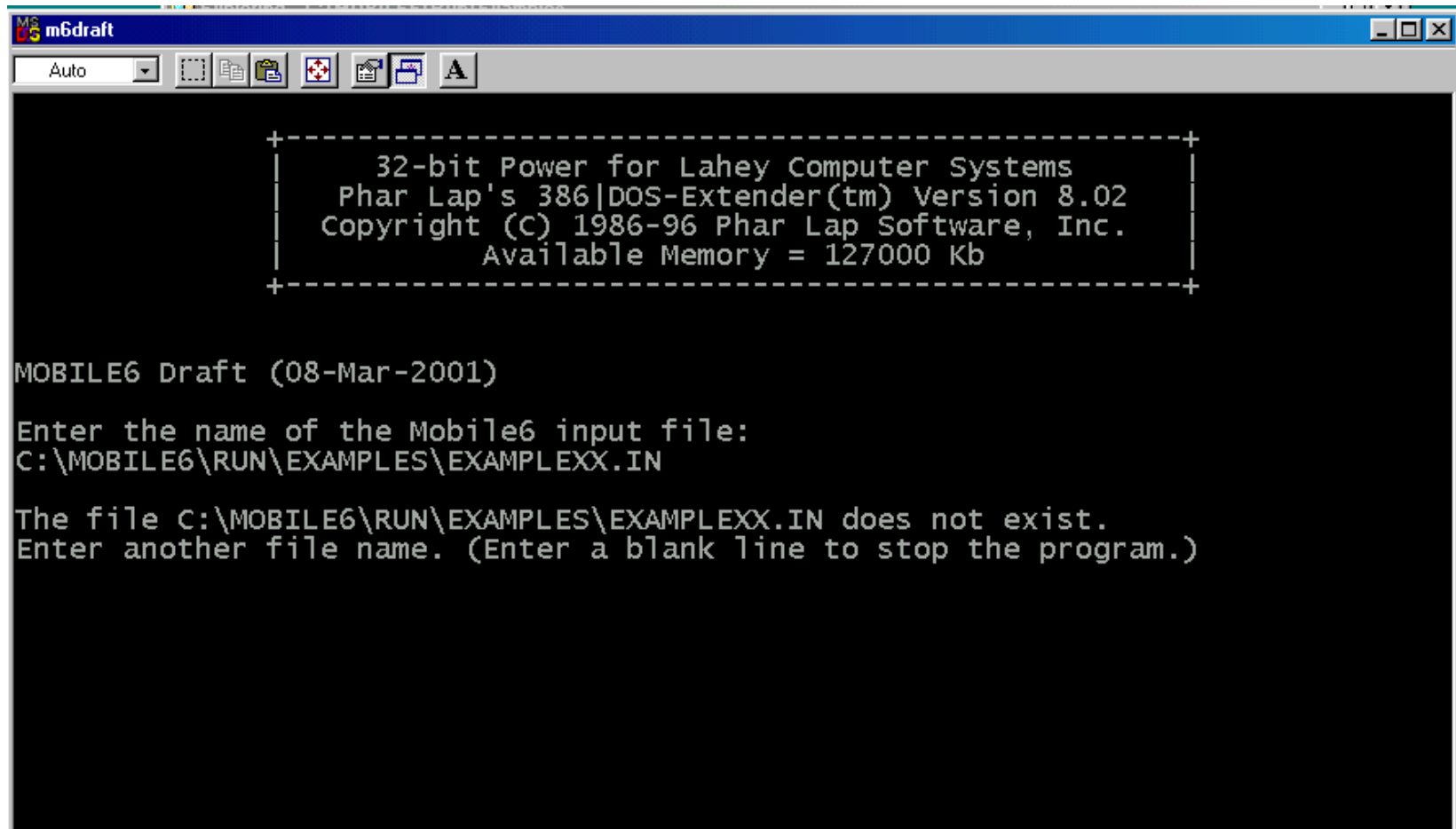


Input File Name Limits



- File names should not be longer than 8 characters (excluding extension).
- Path is required if the file is not located in the same directory as the MOBILE6 application.
- Each directory name in the path cannot be longer than 8 characters.

File Name Error Message



The screenshot shows a window titled "m6draft" with a menu bar containing "Auto" and several icons. The main text area displays the following information:

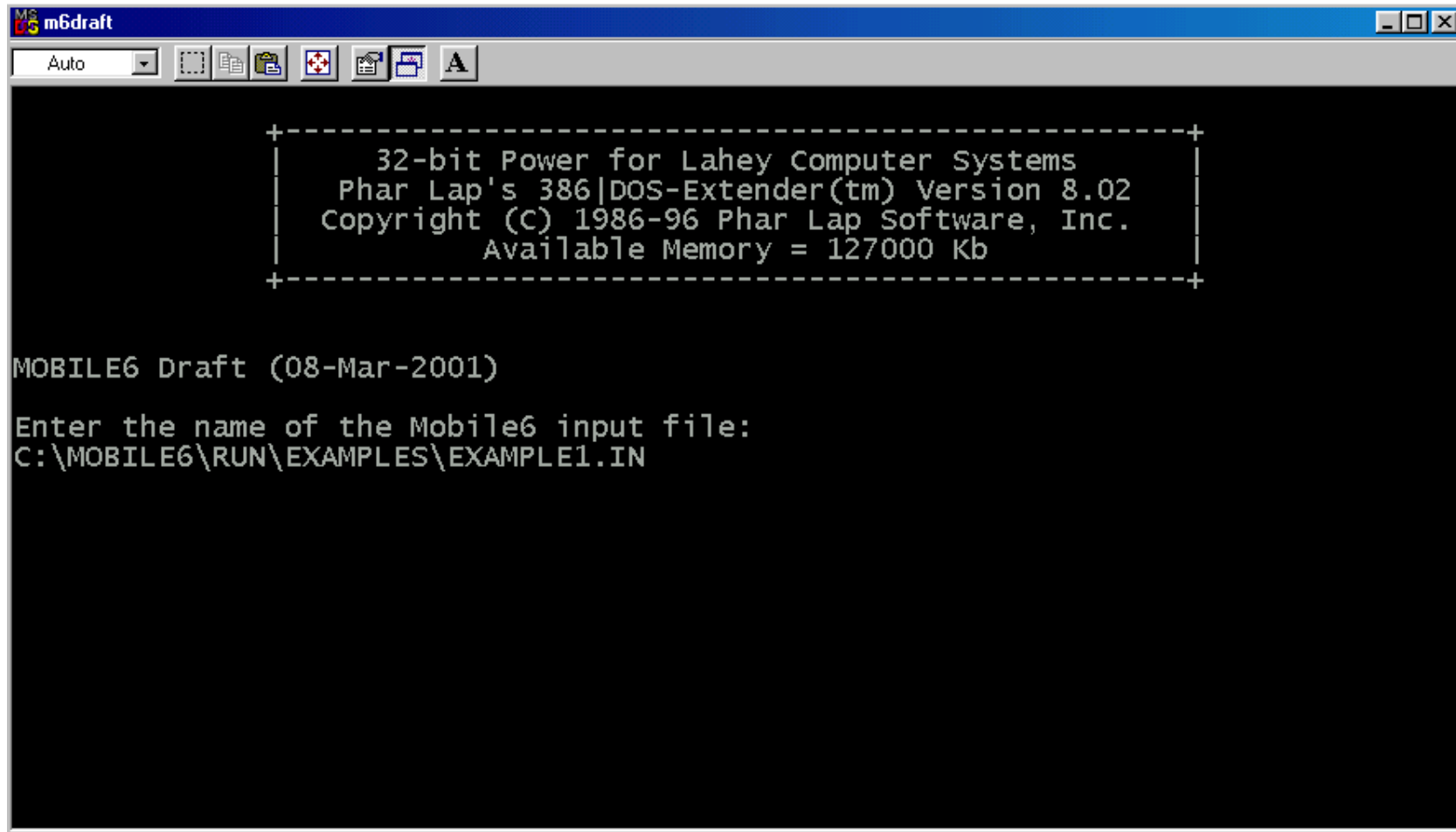
```
+-----+
| 32-bit Power for Lahey Computer Systems |
| Phar Lap's 386|DOS-Extender(tm) Version 8.02 |
| Copyright (C) 1986-96 Phar Lap Software, Inc. |
| Available Memory = 127000 Kb |
+-----+
```

MOBILE6 Draft (08-Mar-2001)

Enter the name of the Mobile6 input file:
C:\MOBILE6\RUN\EXAMPLES\EXAMPLEXX.IN

The file C:\MOBILE6\RUN\EXAMPLES\EXAMPLEXX.IN does not exist.
Enter another file name. (Enter a blank line to stop the program.)

Enter input file name

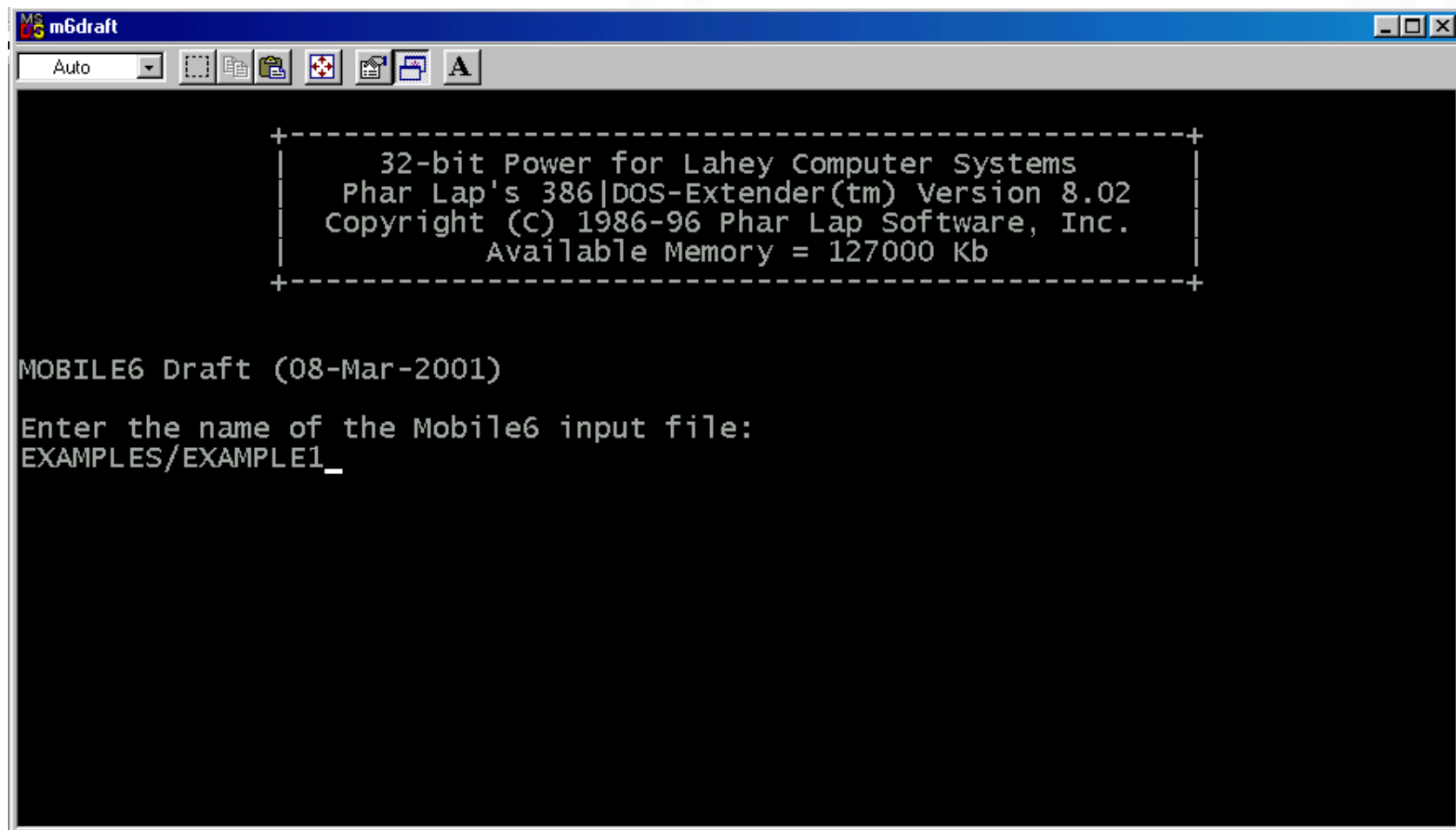


Input File Name Shortcuts



- If the *.IN extension is used, it does not need to be entered explicitly.
- Only subdirectory path required.
- Input files may be dragged to the DOS window.

Short File Name

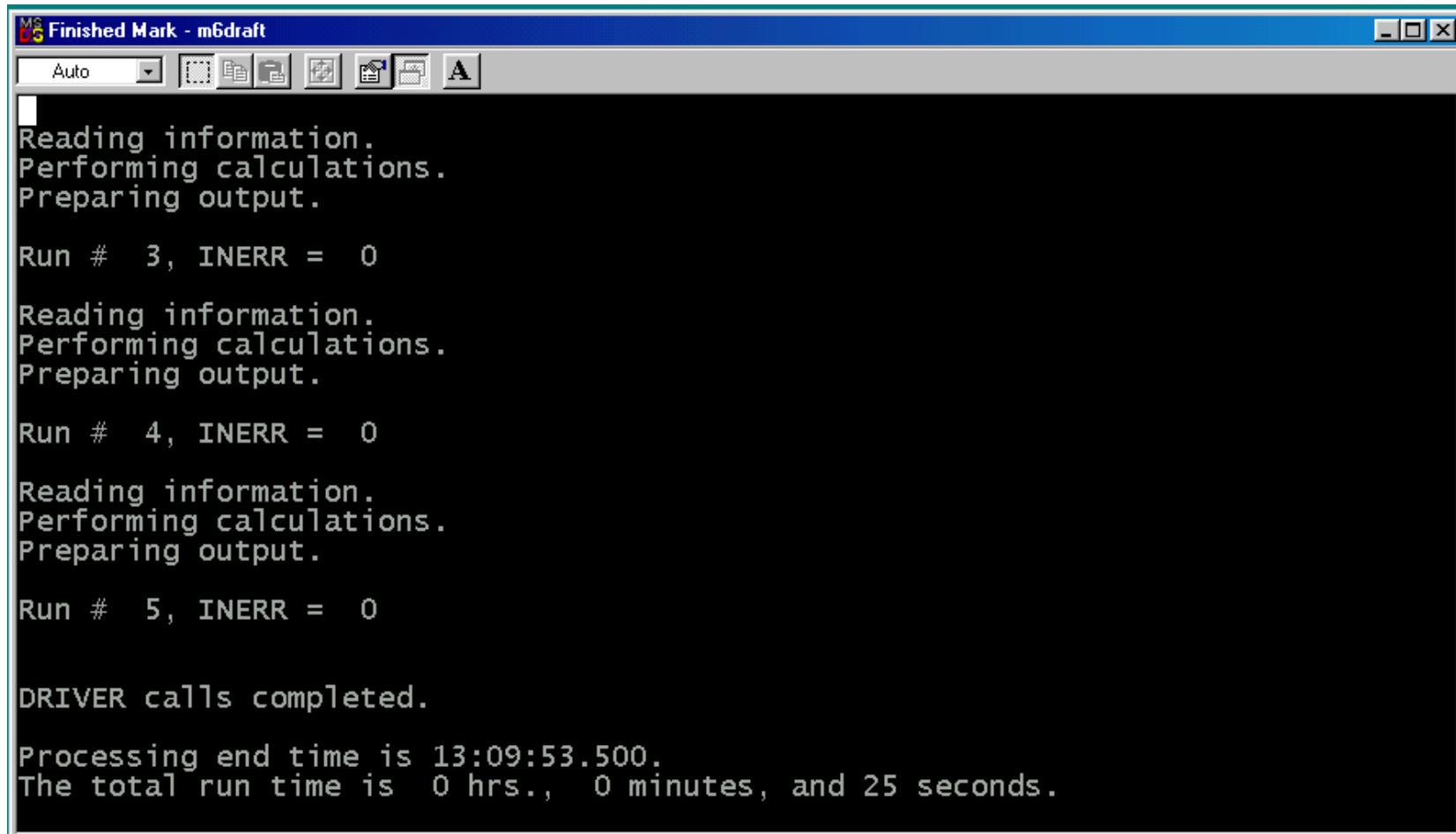


End of Run



- Once the input file name has been entered there is no further interactive input.
- Completion of the input file will end with a “Driver Calls Completed” statement.
- MOBILE6 is much slower than MOBILE5.

End of Run



```
MS Finished Mark - m6draft
Auto
Reading information.
Performing calculations.
Preparing output.

Run # 3, INERR = 0

Reading information.
Performing calculations.
Preparing output.

Run # 4, INERR = 0

Reading information.
Performing calculations.
Preparing output.

Run # 5, INERR = 0

DRIVER calls completed.

Processing end time is 13:09:53.500.
The total run time is 0 hrs., 0 minutes, and 25 seconds.
```

Output File Names



- Default names are the same as the input file name.
- Descriptive output has a *.TXT extension.
- Database output has a *.TB1 extension.
- By default, output will be located in the directory specified by the input path.

Example of Output Names



- If the input file name is:

c:\data\EXAMPLE1.IN

- The default output files will be:

c:\data\EXAMPLE1.TXT

c:\data\EXAMPLE1.TB1

Specifying Output File Names



- Not recommended.
- Can be specified when the input file name is entered.
- Can be specified by input commands:
 - REPORT FILE (Descriptive)
 - EMISSIONS TABLE (Database)
- Can be specified in a BATCH FILE.

Opening Output Files



- Descriptive output:

- Can be displayed and printed using any text editor or word processor.

- Database output:

- Can be imported into spreadsheets and database applications.

Creating Input Files



- Best done in a text editor (i.e., Notepad)
- Can be done in any wordprocessor.
- Best done using a non-proportional font (i.e., Courier).
- Must result in a DOS text (ASCII) file.
- Must not include tabs.

Input File Types



■ MOBILE6 INPUT FILE

- May include many separate Runs.
- May include many separate Scenarios.

■ MOBILE6 BATCH FILE

- May only contain one command: MOBILE6 BATCH FILE.
- Contains a list of MOBILE6 input files.

Commands



- Commands are used to:
 - Invoke MOBILE6 options.
 - Supply data values.
 - Supply external data file names.
- Format of Commands
 - First 19 characters in a command record.
 - May include extra blank spaces within the 19 characters of the command.

Comments



- Comments do not affect results.
- Two types:
 - Written to the Descriptive output or to the monitor screen. (> symbol in column 1)
 - Can be used to annotate of the input file. (* symbol in column 1)

Data



- Data may be provided only after column 21 in a command line.
- Data may be provided immediately following an associated command line.
- Data may be provided via an external file.
- Location and format of data depends on the command. Consult the User Guide.

Command Line Data



MIN/MAX TEMP : 72. 92.

or

VMT BY HOUR : Hvmt.def

or

EXPRESS HC AS VOC :

Data Lines Following a Command



```
VMT FRACTIONS      :  
0.354  0.089  0.297  0.092  0.041  0.040  0.004  0.003  
0.002  0.008  0.010  0.012  0.040  0.002  0.001  0.005
```

External Data File



VMT BY HOUR

*

* Fraction of all vehicle miles traveled by hour of
* the day. First hour is 6 a.m.

*

0.0569	0.0740	0.0656	0.0555	0.0540	0.0582
0.0608	0.0571	0.0598	0.0636	0.0777	0.0730
0.0501	0.0389	0.0308	0.0264	0.0194	0.0144
0.0108	0.0086	0.0081	0.0080	0.0098	0.0186

Free Format Data Entry



- Allows data values to be entered into any column in the data space (columns 22 through 150).
- Allows the data to be entered onto more than one data line.
- Data values must be separated by spaces or single commas.

Fixed Format Data Entry



- Used extensively in MOBILE5.
- Used infrequently in MOBILE6 (check the User Guide command descriptions).
- Specifies precisely in which columns the data must appear.
- Specifies precisely in which form (integer or real) the data must appear.

Command Input Files



- Header section
- Run section
- Scenario section

Command Input File Commands



- Some commands may only be located in specific sections.
- Some commands may occur in either the Run or Scenario sections, depending on the intent of the user.
- Commands may appear more than once in a section, but only the last occurrence will effect the results. (No warnings)

Header Section



- Controls overall execution and output.
- Affects all Runs and Scenarios within the command input file.
- Begins with the MOBILE6 INPUT FILE command.
- Ends at the RUN DATA command.

Run Section



- Contains information that affects all Scenarios.
- There may be multiple runs within a command input file.
- Begins after the RUN DATA command or an END OF RUN command.
- Ends at an END OF RUN command.

Scenario Section



- Contains information that only affects that Scenario.
- MOBILE6 generates a set of emission results for each Scenario.
- Begins with the SCENARIO RECORD command.
- Ends at a SCENARIO RECORD command or an END OF RUN command.

Example Command Input File



```
MOBILE6 INPUT FILE :  
POLLUTANTS          : CO  
  
RUN DATA  
MIN/MAX TEMP        : 64. 92.  
FUEL RVP             : 7.0  
  
SCENARIO REC         : Scenario Title Text  
CALENDAR YEAR        : 2010  
  
SCENARIO REC         : Scenario Title Text  
CALENDAR YEAR        : 2012  
  
END OF RUN
```


Batch Input Files



- Must contain only one command:
MOBILE6 BATCH FILE
- Must contain command input file names.
- Must not contain other batch input file names.
- May contain comments.

Example

Batch Input File



MOBILE6 BATCH FILE :

>Now running Example 1.

examples/example1.in

>Now running Example 2

>with alternate output file name.

examples/example2.in examples/example4.txt

>Now running Example 3.

examples/example3.in

>Now running Example 5.

examples/example5